

STRUCTURE AND METHOD FOR IMPROVED FIELD EMITTER ARRAYS

Abstract of the Disclosure

- A method and structure are provided for simultaneously fabricating
- 5 polysilicon cones for a field emitter and a porous insulating oxide layer for supporting a gate material. The porous insulating oxide is fabricated by first making the polysilicon porous in the field regions by an anodic etch and then oxidation. This is a fully self-aligned process and only one masking is used. Shaping of the gate material in close proximity to the top of the cone is achieved by a lift-off
- 10 technique and requires no special deposition techniques like depositions at a grazing incidence to improve the emitter.

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